

REMARKS

Claims 1-53 are pending in this application. By this Amendment, claims 1-3, 8-10, and 16 are amended and claims, 41-53 are added. Support for new claims 41-53 can be found in the specification including the original claims and the figures, for example, see pages 9-21. Reconsideration in view of the above amendments and following remarks is respectfully requested.

I. 35 U.S.C. § 112, first paragraph

The Office Action rejects claims 2-3 and 9-10 under 35 U.S.C. § 112, first paragraph. Applicant respectfully submits the above amendments obviate the grounds for the rejection. Withdrawal of the rejection of claims 2-3 and 9-10 is respectfully requested.

II. 35 U.S.C. § 102(b)

The Office Action rejects claims 1, 3-4, 7-8, 10-11, and 14 under 35 U.S.C. § 102(b) over Tezuka et al. (U.S. Patent No. 5,170,207, hereinafter "Tezuka"). Because Tezuka fails to disclose or suggest all the features of the claims, the rejection is respectfully traversed.

Applicant respectfully submits that Tezuka appears to disclose a projection lens system with a plurality of lens elements including a Fresnel lens element having negative dispersion characteristics. However, Tezuka fails to disclose or suggest, as recited in claims 1 and 8, at least the feature of at least one lens comprising an aspherical surface.

Rather, Tezuka discloses a series of concave lenses including a Fresnel lens which is off its pupil to correct not only on axial aberrations but off axial aberrations as well. See Figure 3 and column 4, lines 25-44.

Applicant notes that aspheric or aspherical is defined by the American Heritage College Dictionary as "varying slightly from sphericity with only slight aberration, as a lens". See the American Heritage College Dictionary, 3rd edition. As such, Applicant respectfully submits that as illustrated in Figure 3 of Tezuka each of the lenses appear to have either a spherical or planar surface and do not disclose or suggest an aspherical surface as claimed in claims 1 and 8.

For at least the reasons set forth above, it is respectfully submitted that claims 1 and 8 are allowable. Claims 3, 4, and 7 dependent from claim 1 and claims 10, 11, and 14 depend from claim 8, and are allowable for at least the same reasons, as well as their added features and the combinations thereof. Withdrawal of the rejection is respectfully requested.

III. 35 U.S.C. § 103(a)

A. Claims 2, 6, 9 and 13

The Office Action rejects claims 2, 6, 9 and 13 under 35 U.S.C. § 103(a) over Tezuka in view of Chen et al. (U.S. Patent No. 5,969,864). Because the references, alone or in combination, fail to disclose or suggest all the features of the claims, the rejection is respectfully traversed.

Applicant respectfully submits that Tezuka fails to disclose or suggest all the features of claims 1 and 8, from which claims 2 and 6, and 9 and 13 depend, respectively, as mentioned above with respect to the 35 U.S.C. § 102(b) rejection. Chen et al. fail to cure these deficiencies. Applicant respectfully submits that Chen et al. disclose a variable surface relief optical element with ridges or a spherical surface. See column 1, lines 20-40. However, Chen et al. fail to disclose or suggest, as recited in claims 1 and 8, from which claims 2 and 6, and 9 and 13

depend, respectively, at least the feature of at least one lens of a plurality of lenses comprising an aspherical surface.

Rather, as shown in Figures 1-5 of Chen et al., only flat or spherical optical elements are disclosed and Chen et al. fails to disclose or suggest aspherical lenses. See columns 5 and 6 of Chen et al.

For at least the reasons set forth above, it is respectfully submitted that claims 2 and 6, which depend from claim 1 and claims 9 and 13, which depend from claim 8, are allowable for at least the same reasons as claims 1 and 8, as well as their added features and the combinations thereof. Withdrawal of the rejection is respectfully requested.

B. Claims 5 and 12

The Office Action rejects claims 5 and 12 under 35 U.S.C. § 103(a) over Tezuka. Because Tezuka fails to disclose or suggest all the features of the claims, the rejection is respectfully traversed.

Applicant respectfully submits that for the reasons discussed above with respect to claims 1 and 8, from which claims 5 and 12 depend, respectively, that claims 5 and 12 are allowable for at least the same reasons, as well as their added features and the combinations thereof. Withdrawal of the rejection is respectfully requested.

IV. New Claims 41-53

By this Amendment, claims 41-53 are added to the application. Claims 41-53 broadly recite features of the preferred embodiment(s). It is respectfully submitted that the new claims

are allowable over the references of record for the reasons discussed above in connection with claims 1-14.

V. Election/Rejection

The Office Action states that the Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement and therefor the election has been treated as an election without traverse. The Office Action further states that the Applicant states that claim 1 is generic to claims 2-18 but without giving a reason. See page 2 of the Office Action dated October 12, 2001.

However, Applicant respectfully submits that in the Supplemental Reply to the Restriction Requirement dated May 18, 2001, Applicant traversed the election requirement and gave reason as to why claim 1 is generic to claims 2-18. On page 3 of the Reply, Applicant stated "claims 1-18 encompass a projection lens system with a plurality of lenses and at least one refractive optical element". Further, that "[a]s originally elected, claims 1-14 and claims 15-18 are generic to the species of four lens systems (original claims 19-25 and new claims 38-40) and five lens systems (claims 26-37), Applicant respectfully also elects claims 19-25 and 38-40 directed to four lens projection systems, along with generic claims 1-18."

As such, since claims 1-14 generically claim a plurality of lenses with at least one refractive optical element, Applicant respectfully submits that at least claims 1-14 are generic. Applicant also respectfully submits that claims 15-18 are directed to a projection lens system with three lenses and at least one refractive optical element, claims 15-18 are generic to the species of four lens systems and five lens systems as both four and five lens systems include three lens systems.

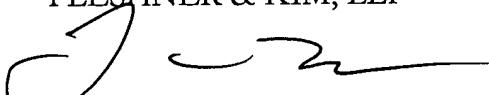
Therefore, Applicant respectfully submits that at least claims 1-14 (as well as newly added claims 41-53) are generic to the remaining claims 15-40 and that upon allowance of claims 1-14 (and claims 41-53), claims 15-40 should be rejoined. Withdrawal of the election requirement is respectfully requested.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Laura L. Lee, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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Attachment: Appendix A

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APPENDIX A

81

asparagine**assail**

lated from bacteria that catalyzes the hydrolysis of asparagine. **a·par·a·gine** (*ə-spär'ə-jēn'*) *n.* A crystalline amino acid, $C_6H_{13}N_2O_3$, found in plants and easily hydrolyzed to aspartic acid. [*ASPARAGUS*(us) + -INE².]

a·par·a·gus (*ə-spär'ə-gas'*) *n.* 1. The tender shoots of a European plant (*Asparagus officinalis*), eaten as a vegetable. 2. Any of various perennial plants of the Old World genus *Asparagus* with leaflike stems, scalelike leaves, and small flowers. [Lat. < Gk. *asparagos*.]

asparagus beetle *n.* A small spotted beetle (*Crioceris asparagi*) that infests and damages asparagus plants.

asparagus pea *n.* An Asiatic twining herb (*Psophocarpus tetragonolobus*) having tuberous roots and long four-angled pods.

a·par·tame (*ə-pär-tām'*, *ə-spär'-tām'*) *n.* An artificial sweetener, $C_{14}H_{18}N_2O_5$, formed from aspartic acid. [*ASPARTIC ACID* + (PHENYL)(LAMINE) + M[ETHYL] + E[STER].]

a·par·tate (*ə-spär'ə-tāt'*) *n.* A salt or ester of aspartic acid. [*ASPARTIC ACID* + -ATE².]

as·par·tic acid (*ə-spär'ik tīk'*) *n.* A nonessential amino acid, $C_4H_7NO_4$, found esp. in young sugar cane and sugar-beet molasses. < [ASPARAGUS (from its being obtained from an amino acid found in asparagus).]

as·par·to·kin·ase (*ə-spär'ə-tō-kīz'*) *n.* An enzyme that catalyzes aspartic acid phosphorylation by ATP. [*ASPARTIC ACID* + KINASE.]

As·pa·sia (*ă-spă'zēə*) *fl. c. 440 b.c.* Greek courtesan and lover of Pericles who was noted for her wisdom, wit, and beauty. **A.S.P.C.A.** *abbr.* American Society for the Prevention of Cruelty to Animals.

as·pect (*ă-spĕkt*) *n.* 1. A particular look or facial expression; men. 2. Appearance to the eye, esp. from a specific vantage point. 3. A way in which something can be viewed by the mind: *all aspects of the situation*. 4. A position facing or commanding a given direction; an exposure. 5. A side or surface facing a particular direction. 6. The configuration of the stars or planets in relation to one another, thought by astrologers to influence human affairs. 7. Gram. A property of verbs that indicates inception, duration, completion, habituality, or other modes of action or being. 8. *Archaic*. An act of looking or gazing. [ME < Lat. *aspex*, a view < p.part. of *aspicer*, to look at : *ad*, ad- + *specere*, to look; see SPEK-.]

aspect ratio *n.* 1. The width-to-height ratio of a photographic or television image. 2. The span-to-mean-chord ratio of an airfoil.

as·pen (*ă-spĕn*) *n.* Any of several trees of the genus *Populus* having leaves attached by flat leafstalks so that they flutter in the wind. — *adj.* 1. Of or relating to one of these trees. 2. Shaking like aspen leaves. [ME *aspē* < OE *aspē*.]

As·pen (*ă-spĕn*) *n.* A city of W-central CO in the Sawatch Range of the Rocky Mts.; founded c. 1879. Pop. 5,049.

as·per·ate (*ă-spär'āt'*) *tr.v.* -at·ed, -at·ing, -ates. To make uneven; roughen. [Lat. *asperare*, *asperat-* < *asper*, rough.]

as·per·ges (*ă-spür'jēz*) *n.* Rom. Cath. Ch. The ceremony of sprinkling the altar, clergy, and congregation with holy water. < Lat. *asperges* (*me*), you will sprinkle (me), the first words of the rite < *aspergere*, to sprinkle. See ASPERSE.]

as·per·gil·lo·sis (*ă-spär'jilō'sis*) *n.* An infection caused by fungi of the genus *Aspergillus*. [*ASPERGILL(US)* + -OSIS.]

as·per·gil·lum (*ă-spär'jil'əm*) or **as·per·gill** (*jil'*) *n., pl.* -gill·a (*jil'ə*) or -gill·ums. Rom. Cath. Ch. An instrument, such as a brush, used for sprinkling holy water. [NLat. < Lat. *aspergere*, to sprinkle. See ASPERSE.]

as·per·gill·us (*ă-spär'jil'əs*) *n., pl.* -gill·i (-jil'ē). Any of various fungi of the genus *Aspergillus*, which includes many common molds. [NLat. < *aspergillum* brush.] See ASPERGILLUM.]

as·per·i·ty (*ă-spär'ē-tē*) *n.* 1. a. Roughness or harshness, as of surface, sound, or climate. b. Severity; rigor. 2. Harshness of manner; ill temper or irritability. [ME *asperite* < OFr. *asprire* < Lat. *asperitās* < *asper*, rough.]

as·perse (*ă-spürs'*) *tr.v.* -persed, -pers·ing, -pers·es. 1. To spread false or damaging charges or insinuations against. 2. To sprinkle, esp. with holy water. [ME, to besprinkle < Lat. *aspergere*, *aspers-* : *ad*, ad- + *spargere*, to strew.]

as·per·slon (*ă-spür'zhōn', -shōn*) *n.* 1.a. An unfavorable or damaging remark; slander: *Don't cast aspersions*. b. The act of defaming or slandering. 2. A sprinkling, esp. with holy water.

as·phalt (*ă-fôlt'*) *n.* 1. A brownish-black solid or semisolid mixture of bitumens obtained from native deposits or as a petroleum byproduct, used in paving, roofing, and waterproofing. 2. Mixed asphalt and crushed stone gravel or sand, used for paving or roofing. — *tr.v.* -phaltd, -phalt·ing, -phalts. To pave or coat with this mixture. [ME *aspalt* < Med.Lat. *asphaltus* < Gk. *asphallos*.] — **as·phal·tic** *adj.*

as·phal·tite (*ă-fôl'tīt'*) *n.* A solid dark-colored complex of hydrocarbons found in natural veins and deposits. **asphalt jungle** *n.* An urban area, usu. having a high population and crime rate.

a·spher·ic (*ă-sfîr'ik*, *ă-sfîr'-ik*) also **a·spher·i·cal** (*i-käl*) *adj.*

Varying slightly from sphericity with only slight aberration, as a lens.

as·pho·del (*ă-fō'dēl'*) *n.* 1.a. Any of several chiefly Mediterranean plants of the genera *Asphodeline* and *Asphodelus* in the lily family, having linear leaves and elongate flower clusters. b. Any of several other plants, such as the bog asphodel. 2. In Greek poetry and mythology, the flowers of Hades and the dead, sacred to Persephone. 3. In early English and French poetry, the daffodil. [Lat. *asphodelus* < Gk. *asphodelos*.]

as·phyx·i·a (*ă-fik'sē-ə*) *n.* An extreme decrease in the amount of oxygen in the body accompanied by excess carbon dioxide leading to unconsciousness or death. [NLat. < Gk. *aphuxia*, stopping of the pulse: *ā*, not; see *A*-¹ + *sphuxis*, heartbeat (< *sphuzein*, *sphug-*, to throb).]

as·phyx·i·ant (*ă-fik'sē-ənt*) *adj.* Inducing or tending to induce asphyxia. — **as·phyx·i·at·e** (*ă-fik'sē-āt'*) *v.* -at·ed, -at·ing, -ates. — *tr.* To cause asphyxia in; smother. — *intr.* To undergo asphyxia; suffocate. — **as·phyx·i·a·tion** *n.* — **as·phyx·i·a·tor** *n.*

as·pic¹ (*ă-spik'*) *n.* A clear jelly usu. made of stock and gelatin and used as a garnish or to make a mold. [Fr. < *aspic*, asp (from the resemblance of the jelly's coloration to an asp's). See ASPIC².]

as·pic² (*ă-pik'*) *n.* *Archaic*. An asp. [Fr. < OFr., alteration of *aspé* < Lat. *aspis*. See ASP.]

as·pi·dis·tra (*ă-pi-dis'ṭra*) *n.* Any of several eastern Asian plants of the genus *Aspidistra* in the lily family, esp. *A. elatior*, cultivated as a houseplant for its evergreen basal leaves and bell-shaped flowers. [NLat. *Aspidistra*, genus name < Gk. *aspis*, *aspid-*, shield.]

as·pi·rant (*ă-pi'raント*, *ă-spîr'ənt*) *n.* One who aspires, as to advancement, honors, or a high position. — **as·pi·rant** *adj.*

as·pi·rate (*ă-pô-rāt'*) *tr.v.* -rat·ed, -rat·ing, -rates. 1. *Ling.* a. To pronounce (a vowel or word) with the initial release of breath associated with English *h*, as in *hurry*. b. To follow (a consonant, esp. a stop) with a clearly audible puff of breath, as in English *pit*. 2. To draw (something) into the lungs; inhale. 3. *Medic.* To remove (liquids or gases) by means of a suction device. — *n.* (-par·it). 1. *Ling.* a. The speech sound represented by English *h*. b. The puff of air accompanying the release of a stop. c. A speech sound followed by a puff of breath. 2. *Medic.* Matter removed by aspiration. [Lat. *asp̄irare*, *asp̄irāt̄o*, to breath on: *ad*, ad- + *spirare*, to breathe.]

as·pi·ra·tion (*ă-pô-rā'shōn*) *n.* 1. Expulsion of breath in speech. 2. *Ling.* a. Aspirated pronunciation of a consonant. b. A speech sound produced with an aspirate. 3. The act of breathing in; inhalation. 4. *Medic.* The process of removing fluids or gases from the body with a suction device. 5.a. A desire for high achievement. b. An object of such desire.

as·pi·ra·tor (*ă-pô-rā'tōr*) *n.* 1. A device for removing liquids or gases by suction, esp. from a body cavity. 2. A suction pump used to create a partial vacuum.

as·pi·rā·tor (*ă-spîr'ə-tōr*, *-tōr'*) *adj.* Of, relating to, or suited for breathing or suction.

as·pire (*ă-spîr'*) *intr.v.* -pired, -pir·ing, -pires. 1. To have a great ambition or ultimate goal; desire strongly: *aspired to stardom*. 2. To strive toward an end. 3. To soar. [ME *aspiren* < Lat. *asp̄irare*, to desire. See ASPIRATE.] — **as·pir'er** *n.* — **as·pir'ing** *adj.*

as·pi·rin (*ă-pîr'in*, *-prîn*) *n.* 1. A crystalline compound, $CH_3COOC_6H_4COOH$, derived from salicylic acid and used to relieve pain and reduce fever and inflammation. 2. A tablet of aspirin. [Originally trademark.]

a·squint (*ă-skwint'*) *adv.* & *adj.* With a sidelong glance. [ME : *ā*, on; see *A*-² + -quint; akin to *skwyn*, in ME of *skwyn*, obliquely.]

As·quith (*ă-kwîth'*) *n.* Herbert Henry, 1st Earl of Oxford and Asquith, 1852–1928. British prime minister (1908–16).

ASR *abbr.* Air-sea rescue.

as regards prep. In regard to.

ass¹ (*ăs'*) *n., pl.* ass·es (*ăz'*). 1. Any of several hooved mammals of the genus *Equinus*, closely related to the horses but with smaller build and longer ears and including the domesticated donkey. 2. A vain, silly, or aggressively stupid person. [ME *asse* < OE *ass*, perh. of Celt. orig. ult. < Lat. *asinus*.]

ass² (*ăs'*) *n., pl.* ass·es (*ăz'*). *Vulgar Slang.* 1.a. The buttocks. b. The anus. 2. Sexual intercourse. [ME *ars* < OE *ears*. See ORS².]

As·sad (*ă-săd'*) *n.* Hafez al-. b. c. 1928. Syrian politician who seized control in 1970 and was elected president in 1971.

as·sa·gal (*ă-săg'*) *n.* Var. of assegai.

as·sal¹ (*ă-săl'*) *n.* 1. Any of several feather-leaved South American palms, esp. *Euterpe edulis* and *E. oleracea*, which are sources of heart of palm. 2. A beverage made from the fleshy purple fruit of one of these palms. [Port. *assáil* < Tupi *assahi*.]

as·sal² (*ă-săl'*) *adv. Mus. Ver.* [Ital. < VLat. *ad satis*, to sufficiency. See ASSET.]

as·sall (*ă-săl')* *tr.v.* -salled, -sall·ing, -salls. 1. To attack with or as if with violent blows; assault. 2. To attack verbally.

3. To trouble; beset: *assailed by doubts*. [ME *assailen* < OFr. *asali*, *assail* < VLat. **assalire*, var. of Lat. *assilire*, to jump on: *ad*, onto; see AD¹; *salire*, to jump; see SEL¹.] — **as-**

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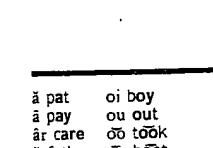
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ass¹
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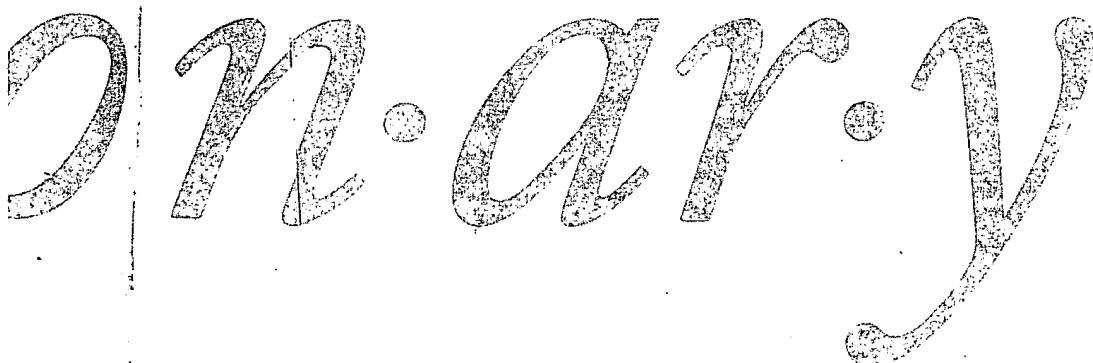
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Docket No. YHK-039

APPENDIX A

**THE
AMERICAN
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THIRD EDITION



HOUGHTON MIFFLIN COMPANY
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